

Photonics Workstation

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We outline a portable photonics workstation we have developed that utilizes just one spatial light modulator to generate an array of currently 100 fully reconfigurable laser-traps [1] with adjustable power ratios making 3D real-time optical manipulation possible with the click of a laptop mouse. We employ a simple patented optical mapping approach from a fast spatial light modulator to obtain reconfigurable intensity patterns corresponding to two independently addressable regions relayed to the sample volume where the optical manipulation of a plurality of nano-featured micro-objects takes place. The stand-alone photonics workstation is currently being tested by external partners with micro-biologic and chemistry expertise. The key features is enlisted below and will be assessed in terms of potential commercialisation:

- True real-time, interactive or vision-guided
- 3D observation and manipulation
- Biologically friendly laser illumination
- Fully autonomous and computerized alignment and micro-experiments
- Uniquely supporting multiple wavelengths simultaneously

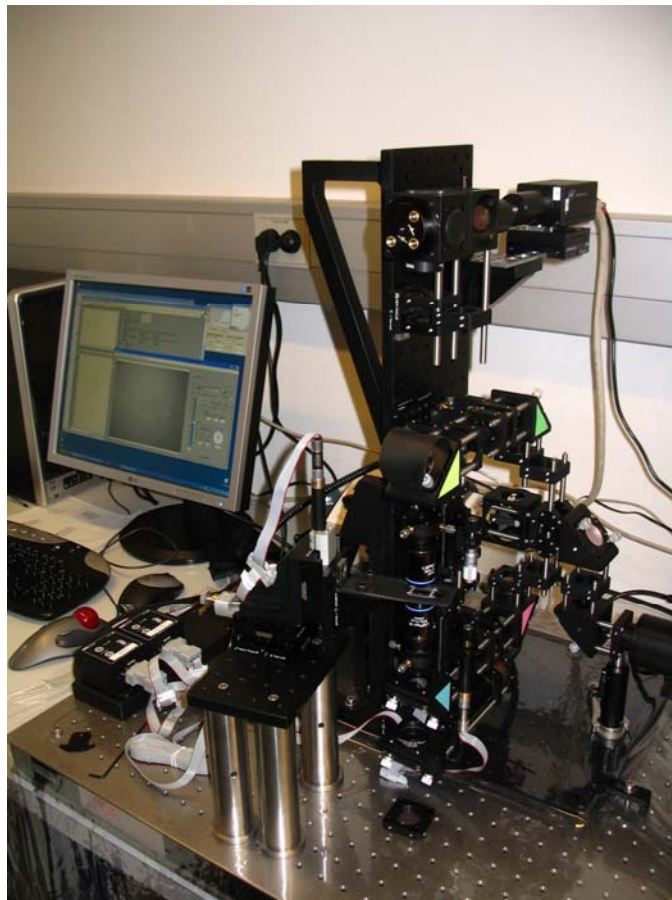


Fig: Two major universities in Denmark were the first to acquire and start beta-testing the new stand-alone Photonics Workstation.

[1] J. Glückstad, *Nature Materials* 3, 9-10 (2004).